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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DUONG, FRANK

ART UNIT

PAPER NUMBER

2664

DATE MAILED: 05/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/276,080

Applicant(s)

PURSE, CHRISTOPHER MICHAEL

Examiner

Frank Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is a response to the communication dated 03/25/1999. Claims 1-17 are pending in the application.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement (IDS) filed 03/25/1999 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to in Other Information section of the above IDS or therein has not been considered because there are no copies provided.

Specification

4. The disclosure is objected to because of the following informalities:

Page 10, line 5, "23" should read --2, 3--.

Page 13, line 25, "We claim:" should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 9 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 9, line 2, "a transparent demultiplexer" recited thereat is vague. It is unclear whether "a transparent demultiplexer" recited on line 2 is the same as that previously recited on line 7 of parent claim 5.

As per claim 13, line 2, "a transparent multiplexer" and "a transparent demultiplexer" recited thereat are vague. It is unclear whether they are the same as that previously recited in parent claim 12.

Claim Rejections - 35 USC § 102

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Martin et

al. (UPS 6,298,038) (hereinafter "Martin").

Regarding **claim 1**, in according to FIG. 6, block 50 and col. 9, line 23 to col. 15, line 19, Martin discloses a method of transporting a supercarrier signal (*supercarrier OC-192; col. 12, line 50*) over a network span (*52, 54, 56 and 58*), the method comprising the steps of:

transmitting said supercarrier signal (OC-192), including messaging information (TOH; *col. 12, line 58*), using a first protocol (optical; OC-192) (*note: col. 12, line 54-56; SC input Port 91 and SC ROH Processor reads on the claimed limitation set forth*);

transparently demultiplexing (*STS-1 Manger 85*) said supercarrier signal (OC-192) into a plurality of trib signals (*STS-48s; col. 13, line 21*) (*note: col. 13, lines 13-19; STS-1 manger 85 reads on the claimed limitation set forth*);

transmitting said trib signals (STS-48s) over said network span (*52, 54, 56 and 58*) using a second protocol (*electrical; STS-48*) (*note: col. 13, lines 19-26; Trib Output Ports read on the claimed limitation set forth*); and

whereby the messaging information (TOH) required to maintain said first protocol is included in said trib signals (STS-48) (*note: col. 7, lines 48-60 and col. 12, line 62 to col. 13, line 3*).

Regarding **claim 2**, in addition to features in base claim 1 (*see rationales pertaining the rejection of base claim 1 discussed above*), the claim further calls for wherein the messaging information (TOH) is used to transparently multiplex (40) the trib signals (*STS-48 signals at 61-64*) into the supercarrier signal (OC-192) (*note: FIG. 6,*

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col. 9, line 41 to col. 12, line 53; SC TOH Processor 66 and SC Output Port 71 read on the claimed limitation set forth).

Regarding **claim 3**, in addition to features in base claim 1 (see *rationales pertaining the rejection of base claim 1 discussed above*), the claim further calls for wherein each trib signal (STS-48) is multiplexed from a plurality of basic signals (STS-1s) (note: at col. 13, lines 19-21, Martin discloses each trib output port 81-84 is responsible for receiving the outgoing STS-1s from block 85, multiplexing the STS-1s into an output STS-48).

Regarding **claim 4**, in addition to features in base claim 1 (see *rationales pertaining the rejection of base claim 1 discussed above*), the claim further calls for wherein the messaging information (TOH) includes both essential messaging information (APS bytes K1 and K2; col. 7, lines 55-60) and desirable messaging information (E1, E2, F1 and M1; col. 13, lines 27-56) (note: at col. 13, lines 21-22, Martin discloses trib TOH received from block 80 is added into STS-48).

Regarding **claim 5**, in according to FIG. 6 and col. 9, line 23 to col. 15, line 19, Martin shows an apparatus (Tmux 40 or 50) for transporting a supercarrier signal (OC-192) over a network span (52, 54, 56 and 58) including:

a network (FIG. 6) for transporting said supercarrier signal (OC-192), including messaging information (TOH), using a first protocol (*optical*; OC-192);

a network span (40 and 30 and 50) comprising a plurality of low bit rate network section (61, 62, 63, 64, 81, 82, 83 and 84) for transporting a plurality of trib signals (STS-48s; col. 13, line 21) using a second protocol (*electrical*; STS-48);

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a transparent demultiplexer (Tmux 50) connected to said network (FIG. 6) and said network span (52, 54, 56 and 58) for demultiplexing said supercarrier (OC-192) into said trib signals (STS-48s) (*note: col. 13, lines 13-19; STS-1 manger 85 reads on the claimed limitation set forth*); and

wherein said demultiplexer (Tmux 50) includes means for inserting (80, 88 and 90) into said plurality of trib signals (STS-48) the messaging information (TOH) required to maintain said first protocol (*optical*) (*see col. 12, line 62 to col. 13, line 12 and col. 13, lines 21-22*).

Regarding **claim 6**, in addition to features in base claim 5 (*see rationales pertaining the rejection of base claim 5 discussed above*), the claim further calls for a multiplexer (40), connected between said network span (40 and 30 and 50) and said network (FIG. 6), for transparently multiplexing the trib signals into the supercarrier signals (*see col. 9, line 30 to col. 12, line 53*).

Regarding **claim 7**, in addition to features in base claim 5 (*see rationales pertaining the rejection of base claim 5 discussed above*), the claim further calls for wherein the information required to maintain the first protocol is extracted from the trib signals (*see col. 9, line 41 to col. 11, line 60*).

Regarding **claim 8**, in addition to features in base claim 5 (*see rationales pertaining the rejection of base claim 5 discussed above*), the claim further calls for the trib signal may pass in both directions along the network span (*inherent; FIG. 6 shows trib signals flow from Originating Trib System (40) along path 30 to Destination Trib System (50)*). However, at col. 9, lines 9, lines 28-29, Martin discloses T-Mux pair 40, 50

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operates similarly for the reverse traffic. Thus, it is inherent that trib signals may pass in both directions along the network span as claimed).

Regarding **claim 9**, in addition to features in base claim 5 (see *rationales pertaining the rejection of base claim 5 discussed above*), the claim further calls for wherein the network span includes a transparent multiplexer (40) and a transparent demultiplexer (50) (see *FIG. 6*).

Regarding **claim 10**, in according to *FIG. 6* and col. 9, line 23 to col. 15, line 19, Martin shows a transparent demultiplexer (50) comprising:

an input for receiving a supercarrier signal (OC-192) transported using a first protocol (*optical*);

a plurality of outputs (81-84) for transmitting a plurality of trib signals (STS-48s) using a second protocol (*electrical*);

means for demultiplexing (85) said supercarrier signal (OC-192) into said trib signals (STS-48s); and

means for extracting (80, 86, 88 and 90) messaging information (TOH), required to maintain said first protocol (*optical*), from the supercarrier signal (OC-192) and inserting (80) said messaging information (TOH) into the trib signals (STS-48s) (see col. 12, line 62 to col. 13, line 22).

Regarding **claim 11**, in according to *FIG. 6* and col. 9, line 23 to col. 15, line 19, Martin shows a transparent multiplexer (40) comprising:

an output (71) for transmitting a supercarrier signal (OC-192) using a first protocol (*optical*);

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a plurality of inputs (61-64) for receiving a plurality of trib signals (STS-48s) transported using a second protocol (electrical);

means for multiplexing (65) said trib signals (STS-48s) into said supercarrier signals (OC-192); and

means for extracting (60) messaging information (TOH) from the trib signals (STS-48s) and using (66) said messaging information (TOH) to maintain said first protocol (electrical) (*see col. 9, line 41 to col. 11, line 60*).

Regarding **claim 12**, in according to FIG. 6 and col. 9, line 23 to col. 15, line 19, Martin shows a network span (40, 30 and 50) comprising a plurality of low bit rate network sections (51-58), the network span having a first end (Destination Trib System) terminated by a transparent demultiplexer (50) and second end (Originating Trib System) terminated by a transparent multiplexer (40), wherein:

The transparent demultiplexer (50) comprising:

a) an input for receiving a supercarrier signal (OC-192) transported using a first protocol (*optical*);

b) a plurality of outputs (81-84) for transmitting a plurality of trib signals (STS-48s) using a second protocol (*electrical*);

c) means for demultiplexing (85) said supercarrier signal (OC-192) into said trib signals (STS-48s); and

d) means for extracting (80, 86, 88 and 90) messaging information (TOH), required to maintain said first protocol (*optical*), from the supercarrier signal (OC-192)

and inserting (80) said messaging information (TOH) into the trib signals (STS-48s) (see *col. 12, line 62 to col. 13, line 22*); and

The transparent multiplexer (40) comprising:

e) an output (71) for transmitting a supercarrier signal (OC-192) using a first protocol (optical);

f) a plurality of inputs (61-64) for receiving a plurality of trib signals (STS-48s) transported using a second protocol (electrical);

g) means for multiplexing (65) said trib signals (STS-48s) into said supercarrier signals (OC-192); and

h) means for extracting (60) messaging information (TOH) from the trib signals (STS-48s) and using (66) said messaging information (TOH) to maintain said first protocol (electrical) (see *col. 9, line 41 to col. 11, line 60*).

Regarding **claim 13**, in addition to features recited in base claim 12 (see rationales pertaining the rejection of base claim 12 discussed above), the claim further calls for wherein the network span (40, 30 and 50) includes a transparent multiplexer (40) and a transparent demultiplexer (50) at each end (see FIG. 6).

Regarding **claim 14**, in addition to features recited in base claim 12 (see rationales pertaining the rejection of base claim 12 discussed above), the claim further calls for wherein the plurality of low bit rate network sections (51-58) provide parallel communications paths (see FIG. 6).

Regarding **claim 15**, in according to FIG. 6 and col. 9, line 23 to col. 15, line 19, Martin shows an optical communication network (FIG. 6) arranged to support, using a

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first protocol (optical), the carriage of a supercarrier signal (OC-192) including messaging information (TOH) through the optical communication network (FIG. 6), the optical communication network including:

a network span (40, 30 and 50) comprising at least one low bit rate network section (51, 53, 55 and 57 or 52, 54, 56 and 58) for transporting a plurality of trib signals (STS-48s) using a second protocol (electrical);

a transparent demultiplexer (50) connected to said network span for demultiplexing said supercarrier signal (OC-192) into said trib signals (STS-48) (see col. 13, lines 13-22); and

wherein said demultiplexer (50) includes means for inserting (80) into said plurality of trib signals (STS-48s) the messaging information (TOH) required to maintain said first protocol (electrical) (see col. 12, line 62 to col. 13, line 12).

Regarding **claim 16**, in addition to features recited in base claim 15 (see rationales pertaining the rejection of base claim 15 discussed above), the claim further calls for wherein the optical communication system is in the form of a loop (see *FIG. 2 and col. 6, lines 1-7, Martin shows fiber optic networks involving sites 10 and 20 having loops 100 and 110; and FIG. 4A and col. 6, line 66 to col. 7, line 2, Martin shows the configuration according to the invention where the four fiber spans 22-25 shown in FIG. 2 between two sites 10 and 20 are replaced by a high rate span 30a and 30b*).

Regarding **claim 17**, in addition to features recited in base claim 15 (see rationales pertaining the rejection of base claim 15 discussed above), the claim further calls for wherein the network span (40, 30 and 50) comprising a plurality of low bit rate

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network sections (51-58) providing parallel communication paths (51-58) across the network span (see FIG. 6).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Castellano et al. (USP 5,065,396).

Parruck et al. (USP 5,257,261).

Saijonmaa et al. (USP 5,706,285).

Sato (USP 5,715,252).

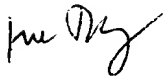
Andersson et al, Silicon Bipolar Chipset for SONET/SDH 10 Gb/s Fiber-Optic Communication Links, IEEE, Vol. 30, No. 3, pages 210-218, March 1995.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Duong whose telephone number is (703) 308-5428. The examiner can normally be reached on 7:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (703) 305-4366. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



Frank Duong
May 9, 2002